Overview

Use the *Outline* to the left for easy viewing of this guide. Skipping to the section you need is recommended.

Asset Extraction

Extracting the assets is useful for VFX mods, simple texture mods, and for general use of the assets.

Preparation:

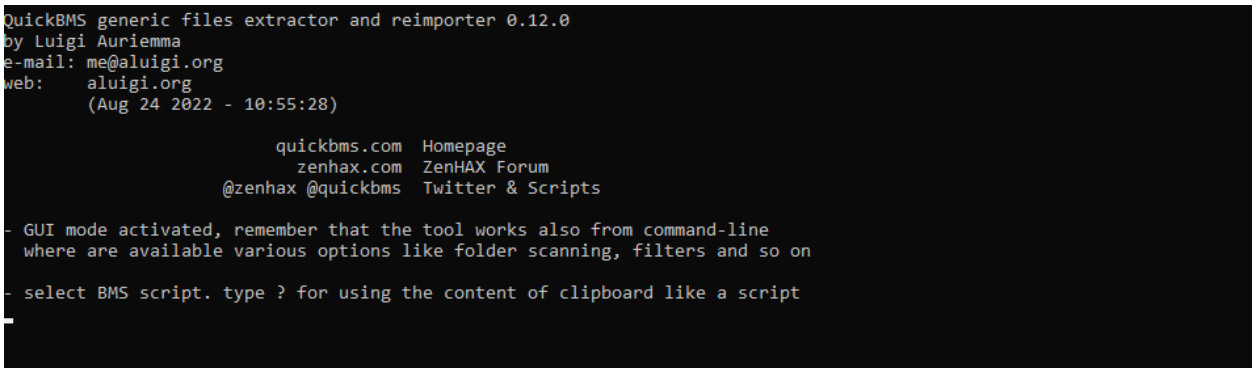
Download the latest release of Asset Studio.

Download the latest release of QuickBMS.

Download this QuickBMS Script.

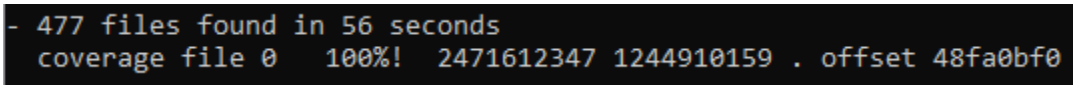
Section 1: Unpacking the Assets

Unzip QuickBMS and run *quickbms.exe* as an administrator. You should see this GUI:



Now, select *split.bms.* Next, it will ask for your input file. This will be BFTG's *assets.dat* file, found in *Power Rangers Battle for the Grid\BattleForTheGrid_Data\StreamingAssets\StandAlone\Batched.* Now, select your output folder. QuickBMS will now unpack your game's files into readable Unity assets.The final

message in the GUI should say 477 files.



If not, try the unpacking process again.

Section 2: Extracting the Assets

Unzip AssetStudio and run *AssetStudioGUI.* Go to *File>Load Folder* and select the folder your unpacked assets are in. It may take a bit, but all of BFTG's assets will load in. Go to *Asset List* to view them, and right click to export them..

Character assets have the naming convention of "*origin_name" (i.e s09_quantum),* excluding Adam, who is named *NB* for some reason.

You now have access to all textures, models, audio, and animations in the game.

Character Reskins and VFX

Download the latest version of Grimbahack. Follow the installation instructions.

You must have your desired textures extracted, use the steps in **Asset Extraction** to get them**.**

Edit your textures as you like, then follow this guide by Grimbakor to enable them.

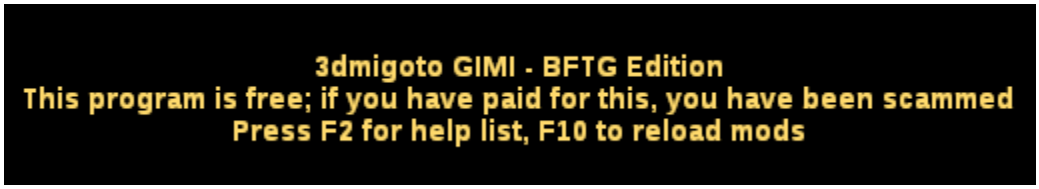
Tips:

For the textures, *ALB* stands for Albedo, the main color texture. *N* stands for Normal, the bump maps that give the textures depth. And *MROE*, which I don't know the meaning of, but appears to be the Ambient Occlusion map, which generates shine and lights on the character.

Character Models

Preparation:

Download the latest release of BFTG-MI.for.making.mods.zip from here. Unzip, and copy the content from the *Release* folder into your BFTG directory. If installed correctly, you will see this message when opening the game:

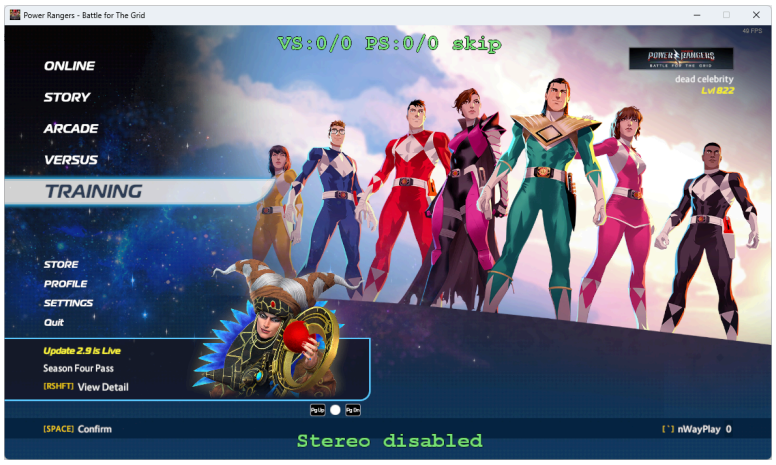


Download the 3DMigoto Blender addon here. Install it in Blender by going to Edit>Preferences>Addons>Install and select *blender_3dmigoto.py*.

You must have a fully rigged 3d model that only has one material.

Section 1: Ripping

Press numpad (Num) 0 to enable developer mode. You will see green text on the top and bottom of the window.



Enter training mode as player one (left player) with the character whose model you want to mod as your first character. Choose the training stage, as it has the least assets.

Press F8. This will take a frame capture of all the assets on screen at that frame. (This will also freeze your game for a bit)

In your BFTG directory, you will see a new folder called *FrameAnalysis-yyyy-mm-dd-xxxxxx.*

In the game, press Num7 and Num8 to cycle through Index Buffers (IB) until the character you want to mod is invisible.

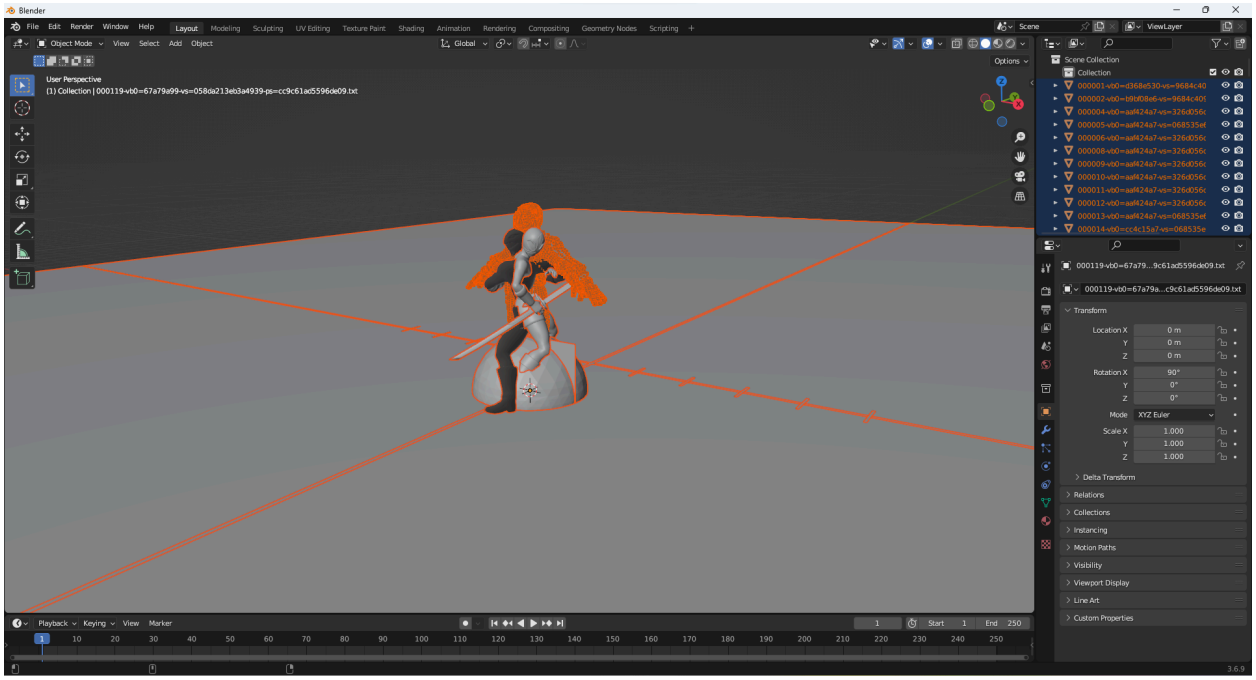
Press Num9 to copy this hash to your clipboard. Record this as an IB somewhere.

Now press Num+ to reset.

Press Num/ and Num* to cycle through Vertex Buffers (VB) until the character you want to mod is invisible again. Press Num- to copy this hash to your clipboard. Go through all VBs and record each one that turns you invisible.

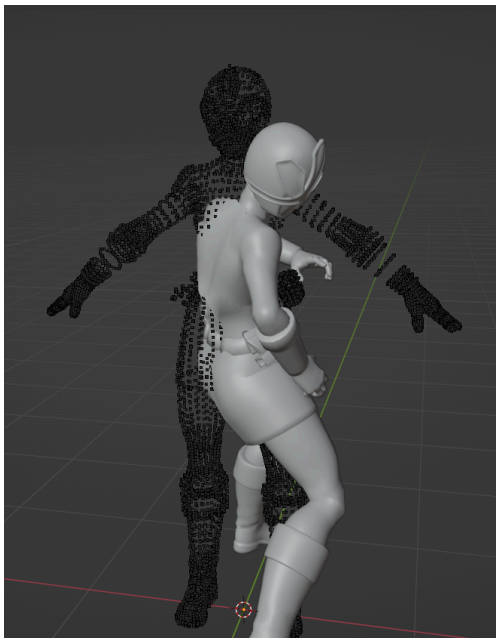
Section 2: Importing to Blender

In Blender, import all of the files you just extracted. Go to File>Import>3DMigoto frame analysis dump (vb.txt + ib.txt). Go to your FrameAnalysis folder, and press “A” to select all files. Your scene should look something like this:

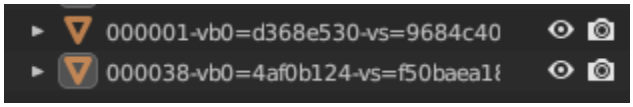


Select the mesh of your posed character, and then Shift+click the vertices of your character in an A-Pose.

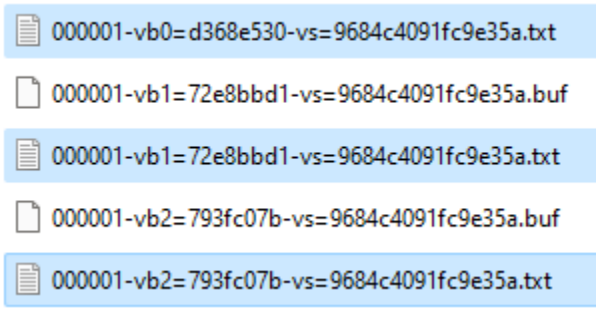
Press Ctrl+I to invert your selection, then press delete. This will leave you with the A-Posed vertices and the posed mesh.



Record the names of them. The VBs' number will be the first 6 digits of the posed, filled in model, while the first 6 digits of the stray vertices will be the IB's number



Now, go back to your *FrameAnalysis* folder and find the vb0, vb1, and vb2 .txt files of your character's A-pose.



Copy them and place them in a separate folder. Then, open each one and change the *pointlist* value to *trianglelist*. Then, save the files.

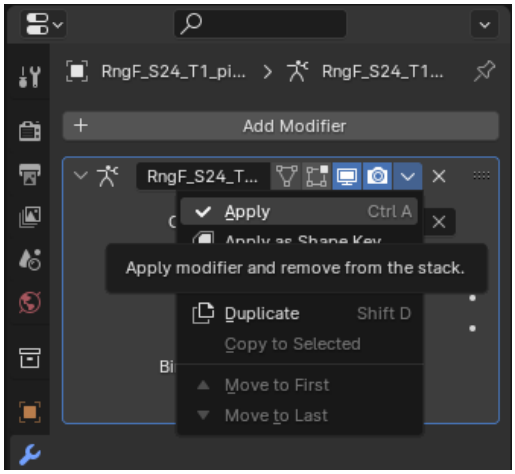
In your *FrameAnalysis* folder, find the posed mesh file IB (in my example, 000038-ib), and place it in the same folder as the vb files.

In that folder, follow this renaming process:
https://youtu.be/6Rh9F3IW8wQ

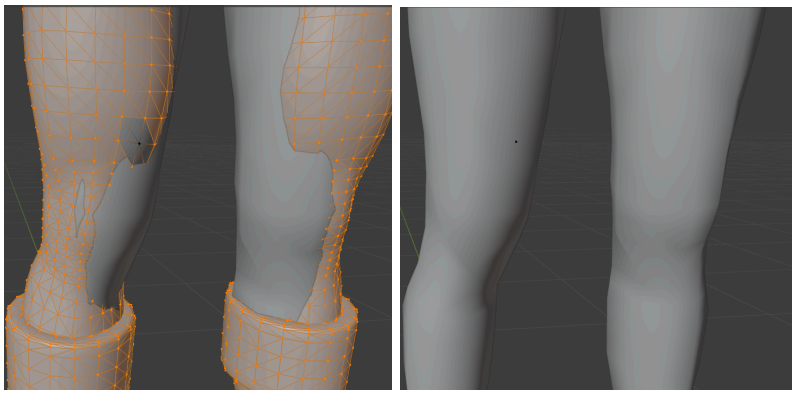
Go back to Blender. Go to File>Import>3DMigoto frame analysis dump (vb.txt + ib.txt). Go to that folder again, and select all the .txt files by pressing “A”. You should have your character’s mesh in an A-Pose.

Section 3: Connecting Your Model

In Blender, import your new model. Scale, move, and pose it so it lines up with the ripped model. Apply the armature of your new model, then unparent and delete it, keeping the mesh in its pose.



Enter edit mode with the ripped model selected. Find a vertice somewhere on the model and deselect it using Ctrl+click. Delete all other vertices.

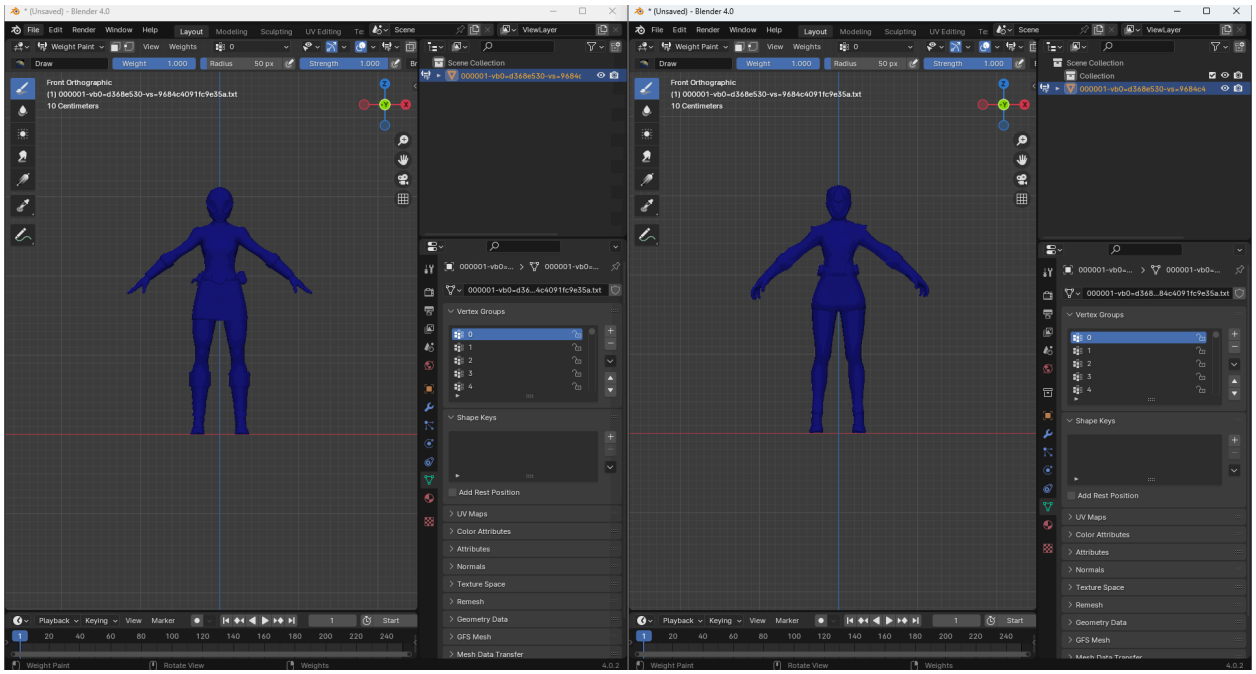


In object mode, select your new model, and then Shift+click the single vertice. Press Ctrl+J to join them together.

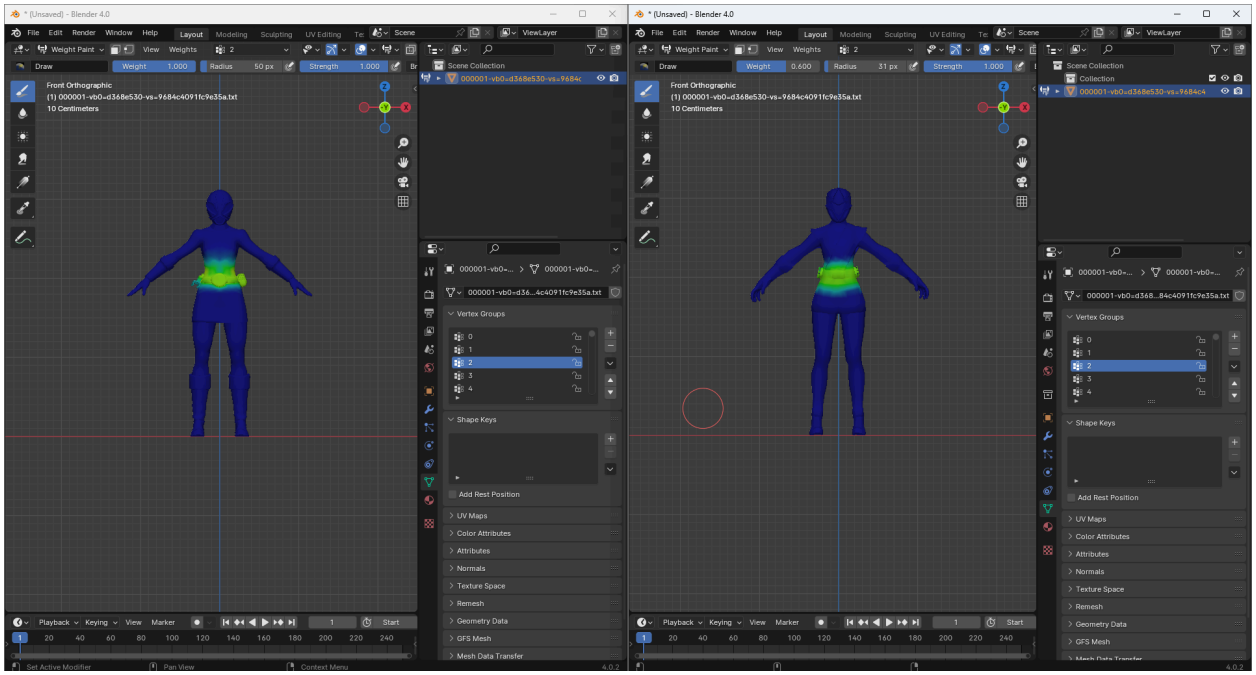
Section 4: Weighing Your Model

Enter weight paint mode. Go to Data>Vertex Groups and delete any that are not named a number.

Now, open another Blender window. Have each window take up half of your screen. Import the ripped model and go to weight paint mode, then to Data>Vertex Groups, and scroll to 0 and select it.



Now, go through each Vertex Group on both models. Weight paint the new model (right) to be as identical as possible to the ripped one (left).



Do this on every vertex group.

Lastly, make sure the UV map is named *TEXCOORD.xy*

Section 5: Creating Your Mod

In your BFTG directory, go into the *Mods* folder, and create a new folder titled your mod's name.

In Blender, export your weighted model as a *3DMigoto raw buffer (vb + ib).* If you have trouble exporting, check this page.

You should have created 5 files, those being: .fmt, .vb0, .vb1, .vb2, and .ib.

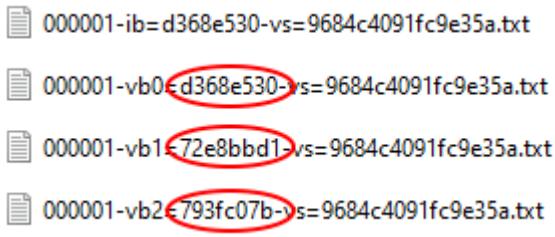
Now, create a new .txt document. Name it what you want to name your mod. Then, change the file extension to .ini.

Open that .ini and paste this template:

```
[TextureOverrideVB0]
hash = VBO
match_first_index = 0
vb0 = ResourceBodyVB0

[TextureOverrideVB1]
hash = VB1
match_first_index = 0
vb1 = ResourceBodyVB1

[TextureOverrideVB2]
hash = VB2
match_first_index = 0
vb2 = ResourceBodyVB2

[TextureOverrideIB]
hash = IB
ib = ResourceBodyIB

[TextureOverrideN]
hash = IB
match_priority = 123
ps-t0 = ResourceReplaceTextureN

[TextureOverrideMROE]
hash = IB
match_priority = 124
ps-t1 = ResourceReplaceTextureMROE

[TextureOverrideALB]
hash = IB
match_priority = 125
ps-t2 = ResourceReplaceTextureALB

[ResourceBodyVB0]
type = Buffer
```

```
stride =
filename = Name.vb0

[ResourceBodyVB1]
type = Buffer
stride =
filename = Name.vb1

[ResourceBodyVB2]
type = Buffer
stride =
filename = Name.vb2

[ResourceBodyIB]
type = Buffer
format = DXGI_FORMAT_R16_UINT
filename = Name.ib

[ResourceReplaceTextureN]
filename = NameN.png

[ResourceReplaceTextureMROE]
filename = NameMROE.png

[ResourceReplaceTextureALB]
filename = NameALB.png
```

Return to the folder where your ripped model is. Copy these VB values one by one, and paste them into the .ini where they belong (that aren't next to other words). (i.e.d368e530 goes over “VB0”)



After that, find the IB hash you saved earlier once again. Copy it, and paste it into the .ini, over all “IB”s.

Now, replace all “Name”s with the name of your .vb0, .vb1, .vb2, and .ib files.

Go back to the folder of your mod and open the .fmt file as a text document. Take the vb stride values and plug them into your .ini.

In Blender, create a normal map for your texture. (Or use this website.)

Name the main texture the same name as your model, but with “ALB” at the end.
Name the normal texture the same name as your model, but with “N” at the end.
Create or download a blank image, and name it the same name as your model, but with “MROE” at the end.

Place all of these files in your mod's folder. Open the .ini again and change the "Name"s to match your texture's names.

Save your .ini, go back into the game and press F10, your mod should be loaded and your mod will be complete!

Tips:

If your character's A-Pose vertices do not import into Blender, try having your desired character be Player 2.

Stages

Coming soon

Hiding Models

If you ever need to hide a model for whatever reason, say you want to remove Slayer's cape, put this

Acknowledgements

DarkStarSword, bo3b and **Chiri** for the original 3dmigoto
Grimbakor for Grimbahack
SilentNightSound for GIMI (and technical help)
Jubilee/dead celebrity for BFTG-MI and this guide